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<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/828,675	SHOOKS ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	John D. Lee	2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to \_\_\_\_\_.
2. ☒ The allowed claim(s) is/are 1-25.
3. ☒ The drawings filed on 21 April 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All   b) ☐ Some\*   c) ☐ None   of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

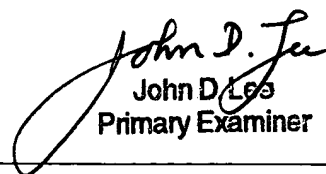
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |  |
|--|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date <u>0704</u> | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                    |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material                           | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|  | 9. <input type="checkbox"/> Other _____.   |

  
John D. Lee  
Primary Examiner

### EXAMINER'S AMENDMENT

An Examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR § 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Claim 17 has been rewritten as follows:

17. (Amended) The composite material according to claim [1]16, wherein the mobile platform is an aircraft.

This minor amendment is necessary in order to provide proper antecedent basis for the term "the mobile platform".

### EXAMINER'S STATEMENT OF REASONS FOR ALLOWANCE

The following is an Examiner's Statement of Reasons for Allowance: The prior art fails to disclose or suggest a composite material (such as a structural material for sensing stress, strain, etc.) comprised of a plurality of laminated layers with *both* an optical fiber *and* a fiber optic demodulator (optically coupled to the fiber) embedded within the composite material. The prior art documents submitted by applicant show the state of the art, and many of these documents illustrate sensing optical fibers embedded within composite materials, but none show *both* an optical fiber *and* a fiber optic demodulator (optically coupled to the fiber) embedded within the composite material. For example, U.S. Patent 5,563,967 to Haake shows an optical fiber grating type of sensing unit with a demodulating system as a part thereof (see Figure 2A). Although

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the Patent generically indicates that fiber sensing units can be embedded within a composite structure (column 1, lines 49-52), the particular demodulating systems used are commercially available off-the-shelf systems which would not lend themselves to embedding (column 8, lines 19-31). This Patent thus does not suggest embedding both the sensing optical fiber and the demodulating system within the composite material as required by applicant's claims. Since this particular embedded structure is not disclosed or suggested by the prior art, the method of using it (set forth in applicant's claim 18) would also not be suggested by the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

#### **DISCUSSION OF THE CITED PRIOR ART**


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 5,633,748 to Perez et al is cited by the Examiner as representative of known optical fiber sensing systems wherein the fiber is embedded within a composite structural material. The fiber optic demodulator, however, is located outside of the composite material.

As noted above, the prior art documents submitted by applicant in the Information Disclosure Statement received on July 26, 2004, have been considered and made of record. Note the attached initialed copy of form PTO-1449. Also as noted

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above, these documents are lacking in any suggestion of the totality of the claimed invention.

Any inquiry concerning the merits of this communication should be directed to Examiner John D. Lee at telephone number (571) 272-2351. The Examiner's normal work schedule is Tuesday through Friday, 6:30 AM to 5:00 PM. Any inquiry of a general or clerical nature (i.e. a request for a missing form or paper, etc.) should be directed to the Technology Center 2800 receptionist at telephone number (571) 272-1562, to the technical support staff supervisor (Team 8) at telephone number (571) 272-1564, or to the Technology Center 2800 Customer Service Office at telephone number (571) 272-1626.

  
**John D. Lee**  
**Primary Patent Examiner**  
**Group Art Unit 2874**